**Heterogeneity and Giving:**

**Evidence from U.S. Households Before and After the Great Recession of 2008**

Una O. Osili, *Lilly Family School of Philanthropy, IUPUI*

Chelsea Jacqueline Clark, *Lilly Family School of Philanthropy, IUPUI*[1]

Xiao Han, *Lilly Family School of Philanthropy, IUPUI*

**Abstract**: Before the Great Recession of 2008, a stable two-thirds of the U.S. population donated to charitable causes in any given year (Giving USA, 2008). However, the fraction of American donors has declined by 11 percent since the Great Recession. In this paper, we investigate pre- and post- recession charitable giving between 2000 to 2014. By examining household dynamics including race and ethnicity, age, gender, and educational attainment, this paper uncovers changes in giving behaviors and provides new insights into how the Great Recession of 2008 affected both giving rates and amounts. It also discusses the implications for civil society and the need to build resilience for responding to future economic shocks.

***Keywords:*** charitable giving, Philanthropy Panel Study, Great Recession, giving incidence, giving amounts

**Author Contributions**

Una O. Osili made substantial contributions to the original conceptualization and design of the project; provided revisions to the organization and substantive content of the article; and contributed to writing the analysis of the results, discussion, and conclusion. Chelsea Jacqueline Clark assisted in the conceptualization and design of the project; developed and wrote substantial portions of the theoretical framework of the manuscript, including developing the specific hypotheses to be tested in the paper; contributed to writing the analysis of the results, discussion, and conclusion; provided revisions to the organization and substantive content of the article; and lead the co-author team contributions. Xiao Han assisted in the conceptualization and design of the project; conducted the analyses; wrote substantial portions of the methodology and results; and revised various parts of the manuscript.

[1] Corresponding author: Chelsea J. Clark, PhD, Research Associate in the Lilly School of Philanthropy at IUPUI, 301 University Blvd., Indianapolis, IN 46202. Email: chelphil@iupui.edu.

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**Introduction**

For many American households, generosity is a core value. In 2017, Americans donated over $400 billion (Giving USA, 2018). This amount exceeded two percent of GDP, of which 70 percent came from households. Alexis de Tocqueville was among the first to document the unique character of private action for the public good in the United States. Although giving and volunteering vary across U.S. cities and states (Hammack, 2000), charitable donations represent a growing and visible share of public good provision in the areas of education, health care, basic needs, arts and culture, and disaster relief services (NCCS, 1995).

The Great Recession (December 2007 – June 2009) represented the most significant economic downturn in America since the Great Depression. From 2007 to 2009, real GDP fell by 3.1 percentage points, real personal income per capita fell by 8.3 percentage points, and the unemployment rate increased from 4.6 percent to 9.3 percent (Moffitt, 2013). Based on aggregate data, during the Great Recession, Americans gave less, both in absolute and relative terms (Giving USA, 2018). While there is initial evidence that the 2008 economic downturn affected charitable behavior by U.S. households, less well understood is how the recession impacted giving across demographic groups. This paper expands the knowledge of how patterns of charitable giving vary across demographic categories and by level of education during periods of economic hardship and proposes solutions to mitigate future instabilities and rebuild the donor base that has fallen steadily since 2008.

The empirical analysis in this paper draws on a unique longitudinal data source – the Philanthropy Panel Study (PPS), a module within the University of Michigan's Panel Study of Income Dynamics (PSID). The data allow us to examine the influence of economic and

demographic factors on generosity. The PPS is the only existing longitudinal dataset on philanthropy based on a nationally representative sample of U.S. households. To date, it is the critical resource that can illuminate how demographic shifts will influence generosity across generations now and in the future. The main findings in this paper reveal important shifts in charitable giving during the first 15 years of the 21st century. Taken together, the results indicate that the proportion of Americans who give has declined by 11 percent during this timeframe, the equivalent of approximately 20 million Americans who are no longer giving to charitable institutions. Similarly, private transfers have declined by comparable percentages from the pre- to post- recession timeframe. The decline in volunteering is relatively moderate, with a 3.5 percent decline during a similar period.

By examining both pre- and post- recession giving behaviors, we are able to disaggregate the impact of the recession on charitable giving by demographic cohort and income level and uncover how giving behavior has varied over time. The empirical findings suggest some challenges ahead for philanthropy. The ranks of Americans who do not contribute to charitable giving has grown over time. While older households (over age 60) have played an outsized role by increasing their giving rates and amounts donated to charitable causes, younger households' giving rates have grown more slowly during the past decade. By examining donor behavior and characteristics, including race and ethnicity, age, gender, and education level, the paper provides new insights into how economic shocks can influence overall giving rates and dollar amounts by diverse demographic groups.

The overall decrease in givers has implications for private charity's ability to support the social sector and participation in civil society. The results in this paper highlight demographic

barriers to philanthropic participation and reveal that an increasing number of Americans have either fallen out of the habit of giving or failed to form this habit to begin with. It is essential to better understand the opportunities to strengthen overall charitable giving among American households.

**Charitable Giving Motives: Private versus Public Benefits to Donors**

Researchers across various disciplines have examined what motivates individuals to give to charitable causes. Fields as diverse as political science, social psychology, sociology, and economics have focused on: (1) Which individuals, under what circumstances, engage in charitable behavior? and (2) When do individuals contribute, rather than free-ride on the contributions of others? Existing models provide insights into how aggregate shocks like the Great Recession influence donor behavior. Konrath and Handy (2018) provide a comprehensive review of the charitable giving literature, classifying previously discussed motivations into two broad categories,:, those that generate: 1) public (other-oriented or extrinsic) benefits, and 2) private (self-oriented or intrinsic) benefits. We draw on this theoretical model of private versus public benefit to the donor to discuss implications for charitable giving during a period of economic downturn, such as the recent Great Recession.

The primary limitation of this approach is that individual motivations for giving do not always categorize discretely into one of these two binary options (public vs. private benefits) and donors may choose to give based upon overlapping motivations. In the public category, motivations include helping others (e.g., “pure altruism”; Becker, 1974). Private, self-oriented motivations include deriving “warm glow” benefits created by the act of giving (Andreoni,

1989), securing the approval of friends, family, or others within one's social network (i.e., "social benefits"), and reducing guilt or negative emotions from not giving.

*The Impact of Public Benefits during a Recession*

Existing models have emphasized the importance of altruism for understanding why people engage in charitable donations. Becker (1974) posited that purely altruistic motivations help explain giving. Under pure altruism, individuals give of their private resources to improve the conditions of others without any expectation of deriving a personal benefit from making their gift. Economic theory provides mechanisms through which economic downturns may influence charitable behavior. During an economic downturn, potential donors are more likely to respond to higher levels of need by increasing their donations, holding all other factors constant. During a downturn, potential donors are also more likely to receive specific requests to give as well as detailed information about individuals who are experiencing greater than typical need. To improve the conditions of others, potential donors may be more likely to give during recessions to meet the higher levels of need in their communities. One additional factor that deserves close attention is that during periods of economic hardship, the government may also expand spending to address needs. Under pure altruism, donors are concerned primarily that charities receive some total amount of money, regardless of the sources (Hernandez-Murillo & Roisman, 2005; see also, Becker, 1974; Roberts, 1987). For this reason, if potential donors were aware of higher spending from the government during the recession, they might decrease their charitable donations.

*The Impact of Private Benefits during a Recession*

An important question is how private benefits including the "warm glow" associated with giving may be altered during recessions. Andreoni (1989) provided a formal model of the private benefits that donors derive from their charitable giving: "First, people simply demand more of the public good…Second, people get some private goods benefit from their gift per se, like a warm glow" (Andreoni, 1989, pp. 1448-1449). Under "warm glow" motives, individuals are less concerned with the outcome of giving and more concerned with the benefit they derive as a result of making their gift. In contrast to pure altruism, where giving may decrease during an economic recession when the government steps in to meet need, donors motivated by a "warm glow" may continue giving at the same pre-recession level to experience the positive benefits or "warm glow" benefits and self-esteem they obtain from giving.

In recent studies, scholars have emphasized the role that social norms have in influencing charitable behavior. Within charitable giving, networks are formed that impact the willingness to contribute to charitable organizations and solicitations for contributions. When philanthropic behavior is publicly observable people give more (Hoffman et al., 1996; Reinstein and Riener, 2012; Soetevent, 2005). Indeed experiments show that observing prosocial behavior leads people to adopt a norm prescribing prosocial behavior and to increase their prosocial behavior the more others are observed behaving consistently with that norm (Krupka and Weber, 2009). There is growing interest in understanding the role that social norms play in charitable giving (Andreoni, 1990; Vesterlund, 2006).

However, the relationship between private benefits and social norms associated with charitable behavior may change during economic downturns, as social norms or societal

expectations around charitable behavior shift because potential donors are themselves experiencing greater need. Individuals may turn to their reference group peers or social network to determine *if* and *how* they should give. If their reference group continues to view giving in a positive way and gives frequently, then the social norm of giving provides motivation for a perspective donor to give also, regardless of economic circumstances (Croson, Handy, & Shang, 2009). However, donors may derive reduced private benefits from giving or experience less guilt from not contributing to charitable causes when times are hard. During recessions and other adverse economic shocks, donors may also receive fewer requests from their social networks to contribute, since they face limited discretionary resources and may need to sustain their own household needs during periods of hardship.

Finally, a range of additional social influences that motivate donors to give may be less salient during an economic downturn. For example, if donors give primarily to avoid guilt, these donors may feel less morally obliged to help others in need because of shifts in their personal circumstances (see Table A1.1: Theories, Benefits, and Recession Expectations in the Appendix for a summary of expectations regarding the roles of public and private benefits during recessions).

**How Donor Characteristics Influence Charitable Giving During a Recession**

Although a large body of research investigates the motives for charitable giving, including the role of demographic variables in explaining patterns of charitable giving, less is known about how such donor characteristics interact with economic conditions to impact charitable giving during economic downturns such as the Great Recession of 2007-2009. During

the Great Recession, the U.S. unemployment rate increased. The national rate doubled from 5.0 percent of the labor force in December 2007 to a high of 10.0 percent in October 2009. The percent of unemployed, under-employed, and discouraged workers grew from 8.8 percent in December 2007 to 17.2 percent in October 2009 (Bureau of Labor Statistics, 2012). Even if the Great Recession did not directly impact one's income during this specific time frame, experiencing such an economic crisis could lead people to give less than they otherwise would have given because they anticipate worse conditions to come and potential hardship resulting from the recession in the future. As Meer, Miller, & Wulfsberg (2016, 3) summarize, "the effects on charitable giving are of particular interest because the need for private philanthropy is generally greatest during times of economic distress, just when the ability of donors to contribute is most limited."

Previous research has shown that periods of recession and economic hardship may have differential impacts by age, gender, and race. Elsby, Hibijn, and Sahin (2010) found that younger, male, less educated workers and ethnic minorities have been hit harder than other demographic groups during difficult economic times. These cohorts have experienced steeper rises in unemployment and their overall experiences throughout the period have been more responsive to cyclical conditions compared to other demographic groups. Another important concern is how a recession may affect donors at different life stages because of the potential for habit formation to influence charitable behavior, whether in moderating the effects of the economic downturn or exacerbating it in the long run (Meer, 2013).

Several researchers have examined the impact of the recession by gender and race. Economists and the media have frequently characterized the 2008 recession as a "man-cession"

(Wall, 2009) explaining that, while it has been difficult for most Americans, the recent recession era negatively affected men more than it did women. According to the Bureau of Labor Statistics (2012), 78 percent of jobs lost during the recession were held by men. The unemployment rate of men peaked in October 2009 at 11.2 percent, compared to the unemployment rate for women at 8.7 percent. Additionally, the unemployment rate in predominantly male sectors, such as manufacturing, rose more than predominantly female sectors, such as education (Bureau of Labor Statistics, 2012). Similarly, "the unemployment rates of blacks exceeded those of whites in urban areas of both North and South" throughout the Great Depression (Sundstrom, 1992).

Considering the effects of the Great Recession of 2008 on unemployment combined with the range of public- and private-benefit based motivations for charitable giving discussed above, we anticipate that many Americans may have altered the frequency and amount of their charitable giving as a result of the recent economic downturn. Since we find some testable implications, we offer the following hypotheses:

**H1:** Post-recession giving rates and amounts for all Americans will be significantly different than their pre-recession giving rates and amounts.

Moreover, we would expect that demographic groups more affected by an economic downturn of the magnitude of the Great Recession (the young, male workers, ethnic minorities, and the less educated) will likely make substantial negative changes to the frequency and amount of their giving.

**H2:** Post-recession giving rates and amounts by younger Americans will be significantly lower than their pre-recession giving rates and amounts.

**H3:** Post-recession giving rates and amounts by men will be significantly lower than their pre-recession giving rates and amounts.

**H4:** Post-recession giving rates and amounts by racial and ethnic minorities will be significantly lower than their pre-recession giving rates and amounts.

**H5:** Post-recession giving rates and amounts by individuals with lower levels of education will be significantly lower than their pre-recession giving rates and amounts.

## Data and Methods

The underlying data for this paper are drawn from the Philanthropy Panel Study (PPS), the generosity module of the Panel Study of Income Dynamics (PSID). The PSID is the longest running longitudinal household survey in the world. The study began in 1968 with a nationally representative sample of over 18,000 individuals living in 5,000 families in the United States. The PSID tracks the same families' charitable giving biennially. In order to keep the PSID representative of the U.S. population, a refresher sample of post-1968 immigrant families was introduced in 1997. The PSID is based at the Institute of Survey Research at the University of Michigan and the data are publicly available to researchers and analysts.

The PPS module was added in the year 2000 and, to date, includes eight waves of data measuring giving in the previous calendar years (2000-2014). The PPS philanthropy module used in this study is unique because it provides high-quality data on charitable giving comparable to the U.S. Individual Taxpayer Return data[2] (Wilhelm, 2006). In addition, the PSID

[2] The PSID philanthropy module is the only data set on giving comparable to the IRS taxpayer data in coverage. However, we should note that the IRS taxpayer database provides a more accurate picture of charitable giving at

also contains high quality data on income and wealth, which are typically unavailable within existing data sets on philanthropic behavior, allowing us to more fully control for the household's economic resources.

In the PPS, giving to charitable and nonprofit organizations is measured in gifts of money, assets, and property/goods to organizations with disparate goals and purposes. These include giving to religious congregations (e.g., churches, synagogues, mosques) and other organizations (e.g., TV and radio ministries) whose primary purpose is religious activity or spiritual development. The secular category encompasses helping people in need, providing health care or conducting medical research (e.g., hospitals, cancer charities, telethons), delivering education (e.g., schools, universities, PTAs, libraries), providing youth and family services (e.g., boys' and girls' clubs, Big Brothers or Sisters, sports leagues), promoting the arts and culture (e.g., museums, theatre, public broadcasting), improving neighborhoods and communities (e.g., community associations, service clubs), preserving the environment or advancing sustainability, providing international aid (e.g., international children's funds, disaster relief, human rights), and engaging in civic or social advocacy. Throughout this paper, the term "combined purpose" giving refers to organizations like the United Way and other public-society benefit groups that collect donations for reallocation to a variety of causes. Giving to all of these purposes, except religious activity or spiritual development, is referred to as giving to "charitable organizations" or secular giving.

and above the 90$^{th}$ percentile of charitable giving. The IRS tax data is less suitable for this study because immigrant status and experience is not recorded, and immigrants may be less likely to itemize their deductions.

The PPS definition of charitable giving includes any gifts of money, assets, or property or goods made directly to the organization, through payroll deduction, or collected by other means on behalf of the charity. It does not include political contributions. The PPS questionnaire uses a threshold amount of $25, meaning respondents must have given at least $25 to charity in order to be asked subsequent detailed questions about their giving.

The sample for the present study consists of individuals who were heads of households or partners of heads of households in at least one wave of the sample. We used all three sub-samples within the PSID: the nationally-representative sub-sample, the low-income over-sample, and the 1997 immigrant refresher sample. Previous studies show that the PSID sample remains nationally-representative despite attrition (Fitzgerald, Gottschalk, & Moffitt, 1998; Schoeni et al., 2013). Our results use the PSID's weights. The data has been pooled from the 2001-2015 individual level PPS samples. After dropping obvious outliers and observations with missing values, the sample size for this study is 100,501 responses, representing 20,217 unique individuals.

Our baseline regression model can be expressed as

$$y_{ijt}=\beta_0+\beta_1 Recession_t+\boldsymbol{\gamma x}_{it}+\boldsymbol{\theta z}_{jt}+\delta State_{ijt}+e_{ijt} \qquad (1).$$

$y_{ijt}$ represents outcome variables for respondent *i*, living in household *j,* at time $t$. $Recession_t$ is the dummy variable indicating the time after the Great Recession. $\boldsymbol{x}_{ijt}$ denotes an individual's socio-demographic variables such as age, gender, employment status, marital status, education, race, and religion at time t. $\boldsymbol{z}_{\text{jt}}$ includes household socio-economic variables, such as the natural logarithm of household permanent income, the number of children in the

household, and the natural logarithm of wealth. State fixed effects are also included in our model. $e_{ijt}$ is the random error term.

Our baseline models use Pooled Ordinary Least Square for log giving amounts and Pooled Probit for giving incidence. Marginal effects are reported using Probit models[3]. An important advantage of pooling together the PPS data from eight waves is that doing so increases the precision of the estimation, meaning that the standard errors are narrower. However, pooling the data introduces complications such that the same individuals appear multiple times in the pooled data. This is handled by "clustering" the standard errors at the individual level.

All giving amounts are adjusted to 2016 U.S. dollars, unless otherwise noted.

## Results

### I. Descriptive Statistics

We first discuss household characteristics that may influence charitable behavior both before and after the recession. Table A1.2 provides summary statistics on charitable giving variables, as well as a rich set of demographic factors and income and wealth measures, which we exploit to fully capture changes in the household's economic position before the Great Recession. As permanent income tends to have a larger effect on charitable behavior than

[3] The control variables in our analysis are listed in Appendix table *A1.2: Summary statistics, Panel 2. Socio-demographic variables*. For dichotomous variables, the results represent the change in the probability and the level of contributions associated with a change in the indicator variable from zero to one.

transitory income sources (Auten, Holger-Sieg, and Clotfelter, 2002), we use a measure of the household's permanent income.

Our measure of permanent income is based on average family income from the past three available waves of the PSID.[4] We note that there are important differences in permanent income and wealth before and after the Great Recession. Mean permanent household income is lower after the Great Recession compared to before the Great Recession ($77,957 versus $84,053, respectively). Following the Great Recession, we also note that employment rates are lower, suggesting a longer-term impact of the downturn. Prior to the recession, 67 percent of heads of households were employed, compared to 62 percent following the recession.

## II. Baseline Regression Model

Table A1.3 presents regression results on the incidence of charitable giving and amounts contributed to charitable causes. Our main dependent variables are: (i) whether an individual contributed to *any* charitable organization during the year and whether they contributed to religious causes or secular charities, and (ii) the log total amount contributed in the survey period, as well as the log total amounts contributed to religious and secular charities. All estimates shown in Table A1.3 include controls for socio-demographic variables, log permanent income, and log wealth.

Table A1.4 shows the regression adjusted predicted probabilities and amounts for all Americans before and after the Great Recession. The predictions are calculated by first obtaining the predicted values of all samples based on regression coefficients and each

[4] Total family income can contain negative values. The number of households with negative numbers for those variables is relatively small (< 0.1%), and we replace these negative values with missing values.

individual's original characteristics and then taking the average[5]. For example, the table shows that non-white Americans gave $1,670 before recession and $1,476 after recession. White Americans gave $1,716 before recession and $1,532 after recession. These four predictions are calculated via the following steps:

1. Estimate the regression using *the full sample* interacting the race dummy variable (1 if non-white) and recession dummy variable;
2. Hold everyone at their original characteristics controlled in the regression except for the race and recession dummy variables. Set race dummy variable to 1 (non-white) and recession variable to 0 (before recession) for *everyone* in the estimated sample and obtain a predicted giving amount for each observation. The mean of these predicted amounts is $1,670.
3. Our other three predictions are similarly calculated.

Reviewing Table A1.4, Columns 1-3, we examine the incidence of charitable giving. We note that the indicator variable post-recession period, after we have introduced controls for socio-demographic variables, has a significant negative impact on the probability of overall charitable contributions. Holding other factors constant, households are 6.4 percent less likely to give to charity after the recession. Similarly, the likelihood of giving to secular and religious purposes declined 5.1 percent and 7.9 percent respectively after the recession. In addition, in the specification in Columns 4-6 of the same table, when we examine the average amount contributed, we find that the recession has a significant negative effect on the levels of charitable giving too. Overall giving amounts declined $186 after the recession, holding other

[5] The predictions in our analysis are obtained from available commands in statistical package rather than manually.

factors constant. Interestingly, most of the decline in overall giving amounts is driven by the decline in giving to religious purposes—we see a $162 decline in religious giving after the recession, compared with a statistically insignificant $24 decline in giving to secular purposes after the recession.[6] Appendix table A1.5 provides raw coefficients for all regressions in Table A1.4.

## III. Hypothesis testing

An important finding within the literature on charitable giving is that demographic factors, such as age, gender, marital status, race and ethnicity, and economic factors all influence charitable giving. In this study, we focus on changes in giving over time rather than results based on one point in time. A key strength of panel data is the ability to better understand how changes in household demographic characteristics, among other factors, induce changes in the practice of giving. Consistent with existing studies, we find that age, educational attainment, household permanent income, and wealth are positively associated with both the incidence and level of charitable giving.[7]

***Hypothesis 1: Post-recession giving rates and amounts for all Americans will be significantly different from their pre-recession giving rates and amounts.***

[6] We also examine giving amounts using Tobit specifications. The differences in unconditional expected values are $300 for overall giving, $90 for secular giving (insignificant), and $275 for religious giving. While the estimated declines are larger using Tobit specification, as expected, it is still true that the decline in overall giving is mainly due to the decline in giving to religious purposes.

[7] Married households are more likely to give and have higher levels of giving compared to co-habiting households (the omitted category), holding all other factors constant. Similarly, gender has a positive impact on giving –and single women are more likely to give compared to single men, holding other variables constant. Interestingly, the effects of race on charitable giving are more complex.

Considering Table A1.4, the overall incidence of charitable giving by all Americans declined following the recession. In Table A1.4, Panel A, we show that the predicted giving rate was 66.6 percent before the recession began and 60.2 percent after the recession ended. This 6.4 percentage point change in giving rates is statistically significant. Looking to the same table, we see that giving to secular purposes declined at a similar rate from 56.2 percent before the recession to 51.1 percent after the recession, a 5.1 percentage point, or 10 percent decrease. Considering Figure 3, giving to religious purposes, however, has experienced a much larger decrease, 21 percent or 8 percentage points, from 45.4 percent before the recession to 37.5 percent after the recession. We note that the decline in giving to religious purposes is larger than the decline in giving to secular purposes and statistically significant (see Table A1.4, Panel A).

The overall average predicted giving level by all Americans dropped from $1,704 prior to the recession to $1,518 after the recession, an 11 percent decline (see Table A1.4). When we examine giving levels by sub-category, we find that the religious giving amount declined by 16 percent, from $1,040 before the recession to $878 after the recession (see Table A1.4). The predicted secular giving amount remained at the same level after the recession (see Table A1.4).

To summarize, overall giving by Americans was significantly lower – both in terms of the rate of giving and the amounts donated – after the Great Recession compared to before the recession began. The secular and religious giving rates and amounts also declined between the pre- and post- recession eras, though giving to religion declined faster in both rate and level. These results support Hypothesis 1 and provide directionality for the hypothesis. Taken

together, the Great Recession appears to have decreased charitable giving by American households.

***Hypothesis 2: Post-recession giving rates and amounts by younger Americans will be significantly lower than their pre-recession giving rates and amounts.***

Both before and after the Great Recession, the overall giving rate of older Americans (defined as over 35 years of age) was higher than the overall giving rate of younger Americans (defined as less than or equal to 35 years of age). Yet, the giving rates of both groups declined between the beginning and end of the Great Recession.

{Insert Figure 1 about here}

From Table A1.4, Panel B we see that, for younger Americans, the predicted giving rates declined from 58.8 percent before the recession to 52.2 percent after the recession, a 6.6 percentage point difference. This represents a statistically significant decline. For older Americans, their predicted giving rate also declined from 69.1 percent before the recession to 63.5 percent after the recession, a 5.6 percentage point decrease. While both groups saw declines in their giving incidence, the predicted giving rate decline for younger households was *larger* than that of older Americans. Similar results were found for overall giving amounts.

Interestingly, when reviewing giving to secular and religious purposes separately, we found that the declines in both the secular giving rate and secular giving amount were more substantial than among older Americans. Younger Americans' likelihood of giving to secular purposes was down 13% after the recession, almost two times the decline for older Americans during the same time-frame. Predicted giving amounts to secular causes declined by 18% for

young Americans, compared with no significant change for older Americans. Alternatively, in terms of religious giving, the decline in both giving rate and amount given was smaller for younger Americans compared to older Americans.

{Insert Figures 2 and 3 about here}

From these results, we find partial support for Hypothesis 2. While the overall giving rate of younger Americans was lower after the Great Recession compared to before the Recession, the average overall giving amount by younger Americans did not decline. Moreover, we learn that the Great Recession also had an impact on older Americans, at least in terms of average overall giving amounts (see Figure 1 and Table A1.4, Panel B). When we review secular and religious giving separately, our results indicate that the recession had a larger impact on young Americans' secular giving and older Americans' religious giving (see Figures 2, 3, Table A1.4).

We recognize the limitations of the broad age categories used in this initial analysis. To expand our investigation, we also examined age cohorts beyond the older American versus younger American comparison, by analyzing giving behaviors by different generations: Millennials, Gen X, Baby Boomer, the Silent Generation, and The Greatest Generation. From Figure A2.3 (in Appendix 2), which presents the predicted rates of giving by generation, we show that younger generational cohorts were less likely to give both before and after the recession.

In addition, we found that the giving rates of Millennials and Baby Boomers were most affected by the Great Recession. These two generational cohorts (Millennials and Baby Boomers) were approximately four percentage points less likely to give after the recession,

compared with their own giving rate before the recession. The decline in giving by Baby Boomers may be attributed to life cycle changes with a sizable fraction of Boomers facing retirement and transitions from the workforce, and thus loss of a steady income, during the Recession era.

We also analyzed giving amounts by generational cohorts (see Figure A2.4 in Appendix 2). Reviewing predicted giving amounts, we see a decline for Millennials between the pre- and post- recession period. However, for the other cohorts analyzed, predicted giving levels held steady or increased slightly during the same time-frame. While the number of Millennials in our sample before the recession began was relatively small (N=2,562[8]), looking at post-recession numbers, we found that Millennials, particularly, do not appear to be giving at rates comparable to how previous generations gave when they were at the age and life stage of current Millennials. These results are consistent with existing analysis from Rooney et al. (2018). High unemployment rates as they were entering the workforce and slow wage growth for millennial households, resulting from the Great Recession, have likely affected Millennial giving rates and amounts. Whether Millennials will be able to "catch up" to their counterparts in other generations and develop a strong habit of giving has yet to be determined.

***Hypothesis 3: Post-recession giving rates and amounts by men will be significantly lower than their pre-recession giving rates and amounts.***

Our baseline regression results show that married couples are more likely to give

[8] This is in person-years, meaning that the same individual could be in multiple waves of the study. The number of unique individuals is N = about 1,500.

compared to single women, who themselves are more likely to give compared to single men, both before and after the Great Recession (see Figure 1 and Table A1.4, Panel C). We also note a decline in the predicted giving rates of single men, single women, and married couples between the pre- and post- recession periods. However, the recession had the largest effect on single men. We found that there was an 8.1 percentage point decline (from 58.9 percent before the recession to 50.1 percent after the recession) in predicted giving rates for single men, compared with a 5.1 percentage point decrease for single women, and a 6.5 percentage point decrease for married couples.

When we review change in predicted giving amounts pre- and post- recession, we find that single men, single women and married couples experienced similar rates of decline in overall giving amounts during this timeframe. However, single men gave nearly 20% less to religion after the recession compared to before it began, the largest decline among the groups compared. These results support Hypothesis 3, that the post-recession giving rates and amounts by men, would be significantly lower than their pre-recession giving rates and amounts. It also suggests that periods of recession have a greater effect on the giving behaviors of single men compared to single women and/or married couples.

***Hypothesis 4: Post-recession giving rates and amounts by racial and ethnic minorities will be significantly lower than their pre-recession giving rates and amounts.***

Ethnic and racial identity may exert a complex influence on philanthropic behavior. Looking at Figure 1 (see also Table A1.4, Panel D) we see that the predicted giving rate of white Americans was higher than the giving rate of non-white Americans both before and after the

Great Recession (before recession: 68.0 percent compared 63.1 percent, respectively; after recession: 61.7 percent compared to 56.0 percent). In terms of change in giving during the recession era, non-white Americans had a slightly larger decline in their giving rate than white Americans: a 7.1 percentage point decline compared to a 6.3 percentage point decline, respectively. However, the difference in the decline is not statistically significant.

In terms of predicted giving amounts, whites and non-whites gave, on average, similar amounts before and after the recession (before recession: $1,716 compared to $1,670; after recession: $1,532 compared to $1,476). Also, the average giving amounts of both groups declined by about the same magnitude during the recession era (see Figure 1 and Table A1.4, Panel D). While these results support Hypothesis 4, which posited that the post-recession giving rates and amounts by racial and ethnic minorities would be significantly lower than their pre-recession giving rates and amounts, they also shed light on the bigger picture. While previous work has found that periods of economic downturn can have a stronger negative effect on non-whites compared to whites, our results suggest that, at least in terms of their charitable giving rates, the Great Recession had a similar negative effect on all races (see Table A1.4, Panel D).

***Hypothesis 5: Post-recession giving rates and amounts, by individuals with lower levels of education, will be significantly lower than their pre-recession giving rates and amounts.***

Reviewing Figure 1 (see also Table A1.4, Panel E), we examine predicted giving rates by education level, and we observe a general decline across various educational categories in terms of giving rates before and after the recession. However, the decline in the rate of giving during the recession era is smaller for individuals with higher levels of educational attainment.

Specifically, there is a 6.7 percentage point decline in predicted giving rates for those heads of households who had a high school degree or less, compared with a 5.0 percentage point decline in giving rates for those heads of households with more than a high school degree (see Table A1.4, Panel E). When we turn to examine average giving amounts by education levels, a more complex story emerges. While individuals with more than a high school degree give larger average amounts both before and after the recession, their decline in average giving amount during the recession era is also more substantial, with about a 12 percent decrease, from $2,141 to $1,891. The average giving amount by individuals with less education did not decline by the same magnitude. Interestingly, the Great Recession appears to have had a stronger negative effect on the average giving amounts of individuals with higher levels of education. From these results, we find partial support for Hypothesis 5. While the overall giving rate for individuals with lower educational attainment was lower after the Great Recession compared to before the Recession, the average giving amount by individuals with less education did not decline.

**Discussion**

The Great Recession represented the largest economic downturn in America since the Great Depression of 1929. During the Great Recession, Americans gave less, both in absolute and relative terms, and different segments of the American population significantly altered their giving patterns. Although several theoretical approaches may suggest a positive impact on charitable giving during periods of economic downturns, our results show more complex patterns by demographic groups. Overall, the findings generally showed a negative effect of the

Great Recession on charitable giving rates and average giving amounts. As such, theories of pure altruism, shifts in social norms, reduced social pressure, guilt, and the potential for receiving fewer requests to give from one's social networks provide relevant explanations for charitable giving behaviors during periods of economic downturn (see Table A1.1).

We find that rates of overall, secular, and religious giving declined for all Americans between the pre- and post- recession time periods. Similarly, average giving amounts declined during the same era for many Americans. Within certain demographic segments, we found differences in the magnitude of the negative effect of the Great Recession. For example, when we compared across demographic categories, important differences emerged. In particular, age exerted an important influence on giving both before and after the recession. Younger Americans were less likely to give after the recession compared to before the recession. However, among younger Americans who gave after the recession, their average giving amount remained consistent with pre-recession average giving amounts. Interestingly, we also observed some shifts in giving patterns for some groups of older Americans, in particular, Boomers saw their predicted giving rates decline between the pre- and post- recession era and the average giving amounts by the Greatest Generation also declined during this same time-frame.

In terms of gender, previous research has shown that periods of economic downturn can have a greater effect on men compared to women. Our results supported this hypothesis as we found that the rate and average amount of giving by single men declined more rapidly between the pre- and post- recession time period compared to the rate and average amount of giving by single women. While previous research may suggest that non-whites are more

negatively impacted by recessions than whites, our results showed that all races experienced a similar decline in giving rates and average giving amounts during the Great Recession. Our results regarding the role of educational attainment and its influence on charitable giving during a recession yielded intriguing results. While individuals with higher levels of education are more likely to continue giving at the same rate during a recession, their average amount given decreases. On the other hand, while the likelihood of giving among individuals with lower levels of education decreases during a recession, among those individuals who continue giving, their average amount given holds relatively steady.

***Decomposition Analysis***

An important question that merits further consideration is the role of economic factors in explaining the observed shifts in giving. In general, a complex set of socioeconomic and demographic factors influences both the likelihood of giving and the levels of charitable giving. Importantly, household economic factors changed dramatically from the period before to after the recession. To better understand the role of economic factors, we conducted Blinder-Oaxaca decomposition analyses exploring the gap in both giving rates and amounts before and after the recession. The decomposition analysis controls for three economic factors: family income, family wealth (excluding home value), and home ownership.

The Blinder-Oaxaca decomposition divides the giving rates in two groups – before and after the Great Recession – into a component that can be attributed to group differences in the three key economic variables and a residual component that cannot be accounted for by these factors alone. The changes in economic endowments also explained 49 percent of the decline in

total giving amounts after the recession. While several factors influence the choice to donate, some key indicators such as household composition, educational attainment, marriage, and religious affiliation and attendance are generally positively associated with an increased likelihood of donating to charity and the amounts donated. The change in giving that is not attributable to changes in economic circumstances may be explained by changes in religious affiliation, religious attendance, and other individual and household-level variables.

In addition, we conducted a decomposition analysis for both older and younger Americans. We found that three household economic factors (i.e., income, wealth, and home ownership) explained the decline in giving incidence for both younger and older Americans.[9] However, for younger Americans, a larger share (51 percent) of the decline in their giving amounts can be attributed to these economic factors, whereas 45 percent of the decline in older Americans' giving amounts are attributable to the same economic factors. When we analyze the background factors that explain the results by marital status and gender, we note that economic factors affected single men and single women differently during the recession. Results from the decomposition analysis showed that changes in income, wealth, and home ownership explained only one third of the decline in giving rates for single men and married couples but explained 58 percent of the decline in giving rates for single women. One plausible explanation for the changes that we observe is that households may have moved away from formal charitable giving to more informal types of charitable giving or private transfers.

[9] We conducted the Blinder-Oaxaca decomposition with three independent variables: log real income, log real wealth, and home ownership. 45% of the difference in giving rates before and after the recession is due to endowments: the gap in giving rates after the recession would be 45% less if families had the same level of income, wealth, and home ownership as they did before the recession began.

**Alternatives to Charitable Giving Levels & Amounts: Private Transfers & Volunteerism**

The PSID contains information on a rich set of indicators including private transfers and volunteering. A significant part of our working hypothesis was the potential that different behaviors that have formed in the last 15 years may be replacing traditional giving and are not being included in the current measures. To investigate this further, we reviewed a host of behaviors ranging from volunteering to private transfers.

Similar to formal charitable giving, which declined for all Americans during the Great Recession, private transfers also declined during this same timeframe. Reviewing Table A1.6, we see that the predicted incidence and levels of private transfers provided to non-household members decreased during the Great Recession. As households faced challenges that led them to reduce giving and/or to give less (in terms of amount) to charitable organizations, they also appeared to reduce their participation in private transfers to non-household family members and friends who had difficulty meeting basic needs during the Great Recession. However, the changes in predicted private transfer participation rates were smaller compared to observed changes in charitable giving. As such, having close ties with non-household family members who can provide additional assistance appears to be important during periods of economic downturn. Future research should focus on improving understanding of how private transfers and social networks respond during periods of economic recession to explain how such negative economic conditions impact informal giving behaviors.

Similar to giving, American volunteering rates have also declined over the past twenty years. While the PPS only measured volunteering incidence in 2003, 2005, and 2011, we are

able to explore more years of volunteering behaviors using the Current Population Survey's (CPS) volunteering supplement (see Table A1.7). The CPS, sponsored jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics (BLS), is the primary source of labor force statistics for the population of the United States. Data is collected monthly from a survey of about 60,000 U.S. households. From 2002 to 2015, the volunteering rate declined at a slow and steady rate from around 30 percent (in 2002-2005) to 26 percent (in 2015), the most recent year for which we have data.

From the CPS, we see a similar trend over time with volunteering rates declining between the pre- and post- recession eras, although these rates of decline are smaller than those observed for charitable giving rates. Taken together, the results on volunteering do not appear to follow a simple pre- and post- recession story. In fact, during the recession, the rate held steady at 28 percent, only dropping to 26-27 percent four years after the end of the recession. The main insight from this analysis is that we do not find any increases in volunteering to offset the observed declines in giving.

***Robustness Checks***

One of the largest impacts of the recession on families and individuals was through the loss of employment. To examine whether the loss of a job during the recession is associated with giving behavior, we compared trends in giving for those who lost their jobs during the recession (defined as employed prior to the recession and unemployed in and after recession years) with those who did not lose their job during this time period. We restrict the comparison

to those younger than 60 years of age. Both summary statistics and regression analysis suggest that loss of one's job did not have an additional negative and significant impact on giving.

It is also notable that the U.S. experienced a shorter and milder recession in 2001, prior to the Great Recession. Although the PPS is conducted bi-annually and did not cover the exact year in which we would expect charitable giving to be the most affected by this recession, including either data from the year 2000 or 2002 as non-recession years may still impact the estimation. Therefore, as a final robustness check, we conducted two sets of additional empirical analyses that exclude data the 2001 and 2003 waves of the PPS, respectively. The results are very similar to our main results, suggesting that the 2001 recession is unlikely to have had a large influence on the overall decline in giving that we have observed between the pre- and post- recession eras.

**Conclusion**

The Great Recession exposed the philanthropic sector's vulnerability to economic shocks. Economic and fiscal uncertainty, coupled with external societal forces, promises to shape future levels and amounts of giving to charitable organizations in the United States. Understanding how to adapt to an ever-changing environment will mean developing new models of relationship-building that sustain interest in philanthropy over time, despite periods of economic downturn. An important area of exploration for future research involves better understanding the long-term impact of the Great Recession as well as how each generation's unique experiences and resulting values and beliefs arising from the Great Recession have distinctly shaped their giving behaviors and habits (Rooney et al., 2018).

Young Americans have come of age during the Great Recession, an era of greater technological innovation and integration into daily living, and a period shaped by declining levels of trust in formal institutions. These factors will likely shape their charitable giving now – and in the future. As Millennials gain economic and financial stability, the question of whether their charitable giving rates and amounts will increase, as their income levels and wealth increase, is yet to be answered. Future research should focus on disentangling the role of recession-driven change compared to generational change in shaping their giving behaviors.

**Figure 1: Predicted Overall Giving Rates and Amounts Before and After the Recession**

**Figure 2: Predicted Secular Giving Rates and Amounts Before and After the Recession**

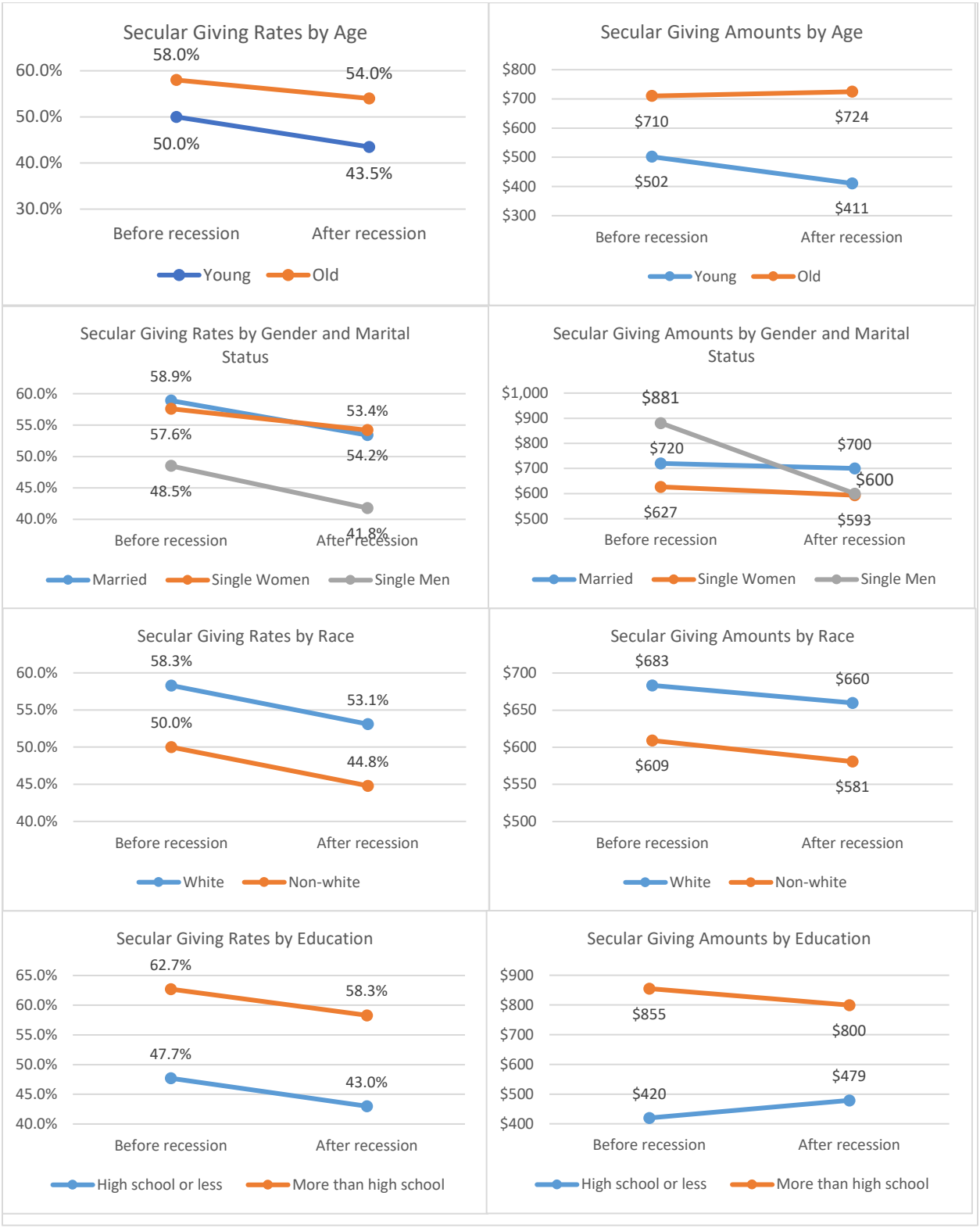
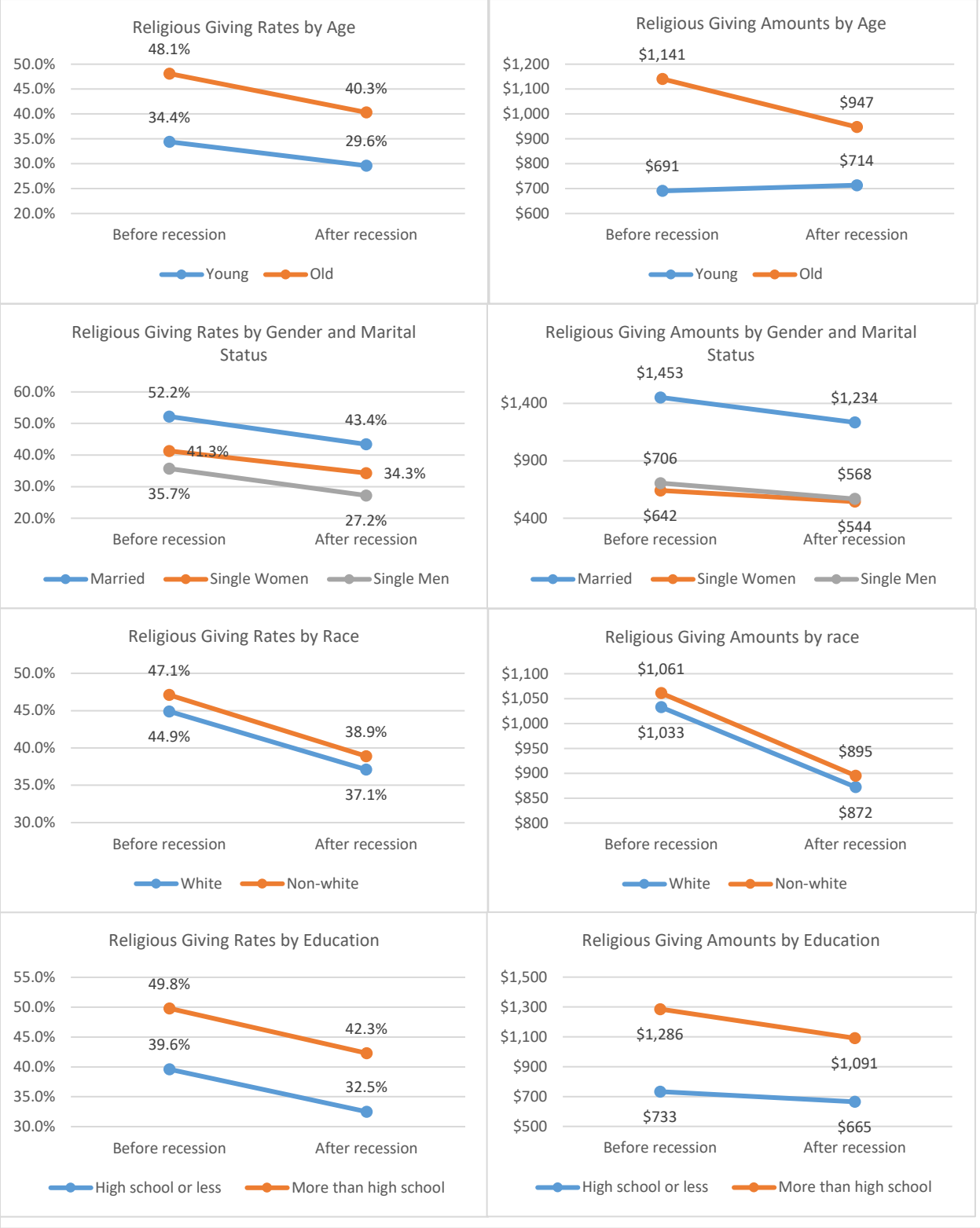


**Figure 3: Predicted Religious Giving Rates and Amounts Before and After the Recession**



**Appendix 1: Supplemental Tables**

**Table A1.1: Theories, Benefit, and Recession Expectations**

| Theory | Benefit | Expectation during Recession |
|---|---|---|
| **Altruism** | *Improving the well-being of others* | + or - |
| **Social** | *Making friends or family happy* | - |
| | *Avoidance of group censure* | + or - |
| **Reputation/Norms** | *Enhanced donor reputation* | + |
| **Guilt** | *Reduce negative feelings* | + or - |
| **Self-Esteem** | *"Warm glow" satisfaction in the act of donating* | + |

*Note: This table has been adapted from Konrath & Handy (2018) to include Recession-based predictions.*

**Table A1.2: Summary Statistics**

| | **Before Recession** | | **After recession** | | **Overall** | |
|---|---|---|---|---|---|---|
| | **Mean** | **sd** | **Mean** | **sd** | **Mean** | **sd** |
| **Panel 1. Giving incidences and amounts** | | | | | | |
| Overall Giving rates | 66.48% | 0.47 | 60.03% | 0.49 | 63.04% | 0.48 |
| Secular giving rates | 55.96% | 0.5 | 51.06% | 0.5 | 53.34% | 0.5 |
| Religious giving rates | 45.33% | 0.5 | 37.44% | 0.48 | 41.12% | 0.49 |
| Average giving amounts | $1,691.07 | 4281 | $1,525 | 4238 | $1,602.42 | 4259 |
| Average giving amounts to secular | $651.91 | 2264 | $648 | 2606 | $650.01 | 2453 |
| Average giving amounts to religious | $1,039.16 | 3120 | $877 | 2803 | $952.41 | 3120 |
| **Panel 2. Socio-demographic variables** | | | | | | |
| Age | 48.64 | 17.02 | 50.36 | 17.38 | 49.56 | 17.24 |
| Single Men | 17.28% | 0.38 | 19.35% | 0.4 | 18.38% | 0.39 |
| Single Women | 29.14% | 0.45 | 30.74% | 0.46 | 30.00% | 0.46 |
| Legally Married | 50.00% | 0.5 | 45.77% | 0.5 | 47.74% | 0.5 |
| White | 76.38% | 0.42 | 73.44% | 0.44 | 74.81% | 0.43 |
| African American | 13.36% | 0.34 | 15.38% | 0.36 | 14.44% | 0.35 |
| Hispanic | 6.71% | 0.25 | 8.68% | 0.28 | 7.76% | 0.27 |
| Less than High school | 15.85% | 0.37 | 12.67% | 0.33 | 14.16% | 0.35 |
| High school | 31.21% | 0.46 | 28.11% | 0.45 | 29.56% | 0.46 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Some college | 22.54% | 0.42 | 25.13% | 0.43 | 23.92% | 0.43 |
| College | 15.07% | 0.36 | 18.32% | 0.39 | 16.81% | 0.37 |
| Graduate | 9.96% | 0.3 | 14.78% | 0.35 | 12.53% | 0.33 |
| Education missing | 5.37% | 0.23 | 0.98% | 0.1 | 3.03% | 0.17 |
| Number of children | 60.39% | 1.02 | 52.68% | 1 | 56.28% | 1.01 |
| Catholic | 23.70% | 0.43 | 23.23% | 0.42 | 23.45% | 0.42 |
| All Protestant | 56.20% | 0.5 | 53.83% | 0.5 | 54.93% | 0.5 |
| Jewish | 3.25% | 0.18 | 3.12% | 0.17 | 3.18% | 0.18 |
| Self-reported health is good | 83.36% | 0.37 | 81.76% | 0.39 | 82.51% | 0.38 |
| Currently employed | 66.65% | 0.47 | 62.42% | 0.48 | 64.39% | 0.48 |
| Currently disabled | 3.43% | 0.18 | 4.26% | 0.2 | 3.87% | 0.19 |
| Currently retired | 16.74% | 0.37 | 19.63% | 0.4 | 18.28% | 0.39 |
| Northeast | 18.58% | 0.39 | 17.81% | 0.38 | 18.17% | 0.39 |
| Northcentral | 27.13% | 0.44 | 26.36% | 0.44 | 26.72% | 0.44 |
| South | 32.78% | 0.47 | 33.82% | 0.47 | 33.33% | 0.47 |
| West (including HI and AK) | 21.02% | 0.41 | 21.41% | 0.41 | 21.23% | 0.41 |
| Real family permanent income | $84,053 | 130129 | $77,957 | 114513 | $80,799 | 122078 |
| Real value of wealth including home | $387,347 | 1468681 | $362,409 | 1760541 | $374,034 | 1631044 |

**Table A1.3: Charitable Giving – Baseline regression results – Full regression table**

| | Incidence | | | Average Amounts | | |
|---|---|---|---|---|---|---|
| | Overall | Secular | Religious | Overall | Secular | Religious |
| After Recession | -0.064*** | -0.051*** | -0.079*** | -185.856*** | -23.800 | -162.057*** |
| | (0.004) | (0.004) | (0.004) | (32.246) | (21.852) | (22.662) |
| Gender and Marital status | | | | | | |
| Single Men | 0.016 | 0.001 | 0.048*** | 204.113*** | 124.794*** | 79.319 |
| | (0.011) | (0.012) | (0.016) | (78.787) | (44.651) | (53.249) |
| Single Women | 0.100*** | 0.108*** | 0.113*** | 166.128*** | 128.324*** | 37.804 |
| | (0.010) | (0.011) | (0.015) | (60.655) | (35.084) | (40.916) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Married | 0.148*** | 0.110*** | 0.208*** | 1014.233*** | 228.933*** | 785.299*** |
| | (0.009) | (0.009) | (0.013) | (58.426) | (27.856) | (42.890) |
| Black | -0.048*** | -0.061*** | 0.013 | 134.187** | 92.285*** | 41.901 |
| | (0.009) | (0.010) | (0.012) | (65.738) | (32.092) | (49.296) |
| Hispanic | -0.060*** | -0.095*** | -0.020 | -218.870** | -203.526*** | -15.344 |
| | (0.011) | (0.012) | (0.015) | (103.119) | (46.453) | (78.710) |
| Age | 0.005*** | 0.004*** | 0.006*** | 27.376*** | 10.362*** | 17.014*** |
| | (0.000) | (0.000) | (0.000) | (2.018) | (1.206) | (1.348) |
| Education: base is less than high school | | | | | | |
| High school | 0.092*** | 0.091*** | 0.077*** | 125.739** | -28.153 | 153.892*** |
| | (0.010) | (0.010) | (0.011) | (55.995) | (26.247) | (42.972) |
| Some college | 0.181*** | 0.177*** | 0.137*** | 516.540*** | 101.828*** | 414.712*** |
| | (0.011) | (0.011) | (0.012) | (68.614) | (32.878) | (52.270) |
| College | 0.255*** | 0.255*** | 0.179*** | 1196.969*** | 516.530*** | 680.438*** |
| | (0.013) | (0.012) | (0.014) | (103.576) | (55.445) | (74.498) |
| Graduate | 0.269*** | 0.284*** | 0.178*** | 1682.010*** | 753.259*** | 928.751*** |
| | (0.014) | (0.014) | (0.015) | (145.936) | (79.108) | (97.558) |
| Catholic | 0.052*** | 0.033*** | 0.188*** | -66.044 | -95.989 | 29.946 |
| | (0.010) | (0.010) | (0.012) | (91.177) | (59.660) | (55.820) |
| Protestant | 0.068*** | 0.017** | 0.198*** | 646.665*** | -110.851** | 757.516*** |
| | (0.008) | (0.008) | (0.011) | (72.944) | (49.679) | (45.903) |
| Jewish | 0.055** | 0.070*** | 0.068*** | 1264.376** | 1036.974*** | 227.402 |
| | (0.023) | (0.023) | (0.025) | (524.951) | (282.403) | (297.556) |
| Good health | 0.036*** | 0.036*** | 0.033*** | 286.648*** | 104.026*** | 182.622*** |
| | (0.007) | (0.008) | (0.009) | (52.728) | (27.242) | (38.109) |
| Number of | 0.001 | -0.005** | 0.025*** | 25.764 | 3.384 | 22.380 |

| | | | | | | |
|---|---|---|---|---|---|---|
| children | | | | | | |
| | (0.002) | (0.002) | (0.003) | (29.531) | (12.782) | (22.200) |
| currently disabled | -0.036** | -0.030* | -0.052*** | -334.587*** | -32.891 | -301.695*** |
| | (0.015) | (0.017) | (0.018) | (89.356) | (42.769) | (63.876) |
| currently retired | 0.001 | -0.001 | 0.008 | -576.879*** | -266.440*** | -310.439*** |
| | (0.011) | (0.011) | (0.012) | (123.140) | (60.171) | (87.015) |
| Log real family permanent income | 0.076*** | 0.093*** | 0.039*** | 398.012*** | 240.263*** | 157.749*** |
| | (0.005) | (0.006) | (0.004) | (35.544) | (23.090) | (17.265) |
| Log real wealth wealth | 0.015*** | 0.016*** | 0.010*** | 116.876*** | 61.178*** | 55.697*** |
| | (0.001) | (0.001) | (0.001) | (8.119) | (4.429) | (5.458) |
| Constant | -4.952*** | -5.103*** | -4.528*** | -7247.384*** | -3525.040*** | -3722.345*** |
| | (0.228) | (0.238) | (0.204) | (432.254) | (281.568) | (216.760) |
| Observations | 100501 | 100501 | 100501 | 100501 | 100501 | 100501 |
| $R^2$ | | | | 0.141 | 0.095 | 0.108 |

Standard errors in parentheses and are clustered at individual level; State controls not reported. Marginal effects reported in column 1-3.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

**Table A1.4: Summary of all regression based predicted values**

| | | Incidence | | | Average amounts | | |
|---|---|---|---|---|---|---|---|
| | | **Overall** | **Secular** | **Religious** | **Overall** | **Secular** | **Religious** |
| **Panel A** | | | | | | | |
| **All Americans** | Before the Great Recession | **0.666** | **0.562** | **0.454** | **1703.952** | 664.133 | **1039.819** |
| | After the Great Recession | **0.602** | **0.511** | **0.375** | **1518.095** | 640.333 | **877.763** |
| | % change | **9.61%** | **9.07%** | **17.40%** | **10.91%** | 3.58% | **15.59%** |
| **Panel B** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Americans aged 35 or less** | Before the Great Recession | **0.588** | **0.5** | **0.344** | **1192.43** | **501.82** | 690.61 |
| | After the Great Recession | **0.522** | **0.435** | **0.296** | **1124.39** | **410.64** | 713.75 |
| | % change | **11.22%** | **13.00%** | **13.95%** | **5.71%** | **18.17%** | -3.35% |
| **American more than 35 years old** | Before the Great Recession | **0.691** | **0.58** | **0.481** | **1850.7** | 709.9 | **1140.8** |
| | After the Great Recession | **0.635** | **0.54** | **0.403** | **1671.8** | 724.45 | **947.35** |
| | % change | **8.10%** | **6.90%** | **16.22%** | **9.67%** | -2.05% | **16.96%** |
| **Panel C** | | | | | | | |
| **Cohabited** | Before the Great Recession | **0.566** | **0.487** | **0.296** | **1108.31** | **516.70** | **591.62** |
| | After the Great Recession | **0.487** | **0.414** | **0.241** | **964.54** | **452.27** | **512.27** |
| | % change | **13.96%** | **14.99%** | **18.58%** | **12.97%** | **12.47%** | **13.41%** |
| **Single Men** | Before the Great Recession | **0.589** | **0.485** | **0.357** | **1314.98** | 610.53 | **704.45** |
| | After the Great Recession | **0.501** | **0.418** | **0.272** | **1167.98** | 600.12 | **567.85** |
| | % change | **14.94%** | **13.81%** | **23.81%** | **11.18%** | 1.71% | **19.39%** |
| **Single Women** | Before the Great Recession | **0.659** | **0.576** | **0.413** | **1268.68** | **626.9** | **641.78** |
| | After the Great Recession | **0.608** | **0.542** | **0.343** | **1137.47** | **593.49** | **543.98** |
| | % change | **7.74%** | **5.90%** | **16.95%** | **10.34%** | **5.33%** | **15.24%** |
| **Married couples** | Before the Great Recession | **0.715** | **0.589** | **0.522** | **2172.75** | 720.19 | **1452.56** |
| | After the Great Recession | **0.65** | **0.534** | **0.434** | **1934.76** | 700.39 | **1234.37** |
| | % change | **9.09%** | **9.34%** | **16.86%** | **10.95%** | 2.75% | **15.02%** |
| **Panel D** | | | | | | | |
| **Non-white** | Before the Great Recession | **0.631** | **0.5** | **0.471** | **1670.02** | 609.06 | **1060.95** |
| | After the Great Recession | **0.56** | **0.448** | **0.389** | **1475.71** | 580.69 | **895.02** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | % change | **11.25%** | **10.40%** | **17.41%** | **11.64%** | 4.66% | **15.64%** |
| **White** | Before the Great Recession | **0.68** | **0.583** | **0.449** | **1716.04** | 683.33 | **1032.71** |
| | After the Great Recession | **0.617** | **0.531** | **0.371** | **1531.87** | 659.76 | **872.11** |
| | % change | **9.26%** | **8.92%** | **17.37%** | **10.73%** | 3.45% | **15.55%** |
| **Panel E** | | | | | | | |
| **High School or less** | Before the Great Recession | **0.588** | **0.477** | **0.396** | 1152.7 | **419.73** | **732.97** |
| | After the Great Recession | **0.521** | **0.43** | **0.325** | 1143.71 | **478.86** | **664.85** |
| | % change | **11.39%** | **9.85%** | **17.93%** | 0.78% | **-14.09%** | **9.29%** |
| **More than high school** | Before the Great Recession | **0.728** | **0.627** | **0.498** | **2140.9** | **855.01** | **1285.88** |
| | After the Great Recession | **0.678** | **0.583** | **0.423** | **1890.54** | **799.56** | **1090.98** |
| | % change | **6.87%** | **7.02%** | **15.06%** | **11.69%** | **6.49%** | **15.16%** |

Standard errors in parentheses and are clustered at individual level; other controls includes employment, income, wealth, religious preference, health status and state effects. Data from 2001-2015 PPS. All dollar amounts are adjusted to 2016 U.S. dollars.

**Table A1.5: Summary of coefficients of regressions in table A1.4**

| | (1) Probit Coefficients | | | (4) OLS coefficients | | |
|---|---|---|---|---|---|---|
| | Overall | Secular | Religious | Overall | Secular | Religious |
| Panel 1. baseline regression | | | | | | |
| After Recession | -0.223*** | -0.164*** | -0.245*** | -185.856*** | -23.800 | -162.057*** |
| | (0.015) | (0.014) | (0.013) | (32.246) | (21.852) | (22.662) |
| Panel 2. Young vs old; Reference group is age > 35 | | | | | | |
| After Recession | -0.20*** | -0.13*** | -0.23*** | -178.90*** | 14.56 | -193.45*** |
| | (0.017) | (0.016) | (0.015) | (38.471) | (26.900) | (26.862) |
| Age <= 35 | -0.35*** | -0.25*** | -0.41*** | -658.27*** | -208.08*** | -450.19*** |
| | (0.026) | (0.025) | (0.026) | (49.090) | (30.773) | (34.629) |
| Age <= 35 * recession | -0.02 | -0.08** | 0.08** | 110.86** | -105.74*** | 216.59*** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.031) | (0.030) | (0.031) | (54.982) | (37.474) | (36.368) |
| Panel 3. Gender and Marital status; Reference group is cohabited. | | | | | | |
| After Recession | -0.25*** | -0.23*** | -0.19*** | -143.77*** | -64.42** | -79.35** |
| | (0.043) | (0.043) | (0.051) | (47.417) | (28.557) | (31.559) |
| Married | 0.51*** | 0.32*** | 0.68*** | 1064.44*** | 203.50*** | 860.94*** |
| | (0.038) | (0.037) | (0.048) | (65.696) | (32.145) | (48.523) |
| Single women | 0.31*** | 0.28*** | 0.36*** | 160.36** | 110.20*** | 50.16 |
| | (0.045) | (0.044) | (0.055) | (70.821) | (40.893) | (47.730) |
| Single Men | 0.07 | -0.01 | 0.20*** | 206.66** | 93.83* | 112.83 |
| | (0.049) | (0.050) | (0.060) | (98.983) | (49.651) | (75.991) |
| Married * recession | 0.02 | 0.06 | -0.07 | -94.22 | 44.62 | -138.84*** |
| | (0.045) | (0.045) | (0.052) | (63.475) | (41.825) | (43.858) |
| Single women * recession | 0.08 | 0.12** | -0.02 | 12.57 | 31.01 | -18.44 |
| | (0.051) | (0.052) | (0.058) | (67.121) | (43.735) | (43.005) |
| Single men * recession | -0.03 | 0.02 | -0.09 | -3.23 | 54.02 | -57.24 |
| | (0.057) | (0.058) | (0.064) | (86.605) | (59.848) | (61.780) |
| Panel 4: Race. Reference group is non-white | | | | | | |
| After recession | -0.24*** | -0.16*** | -0.26*** | -194.30*** | -28.37 | -165.93*** |
| | (0.026) | (0.026) | (0.025) | (40.585) | (22.950) | (28.740) |
| White | 0.17*** | 0.27*** | -0.07** | 46.02 | 74.27** | -28.25 |
| | (0.030) | (0.029) | (0.033) | (65.096) | (33.956) | (48.562) |
| White * recession | 0.02 | -0.01 | 0.01 | 10.13 | 4.80 | 5.33 |
| | (0.031) | (0.030) | (0.029) | (52.141) | (32.955) | (36.674) |
| Panel 5. Education. Reference group is high school or less | | | | | | |
| Recession | -0.21*** | -0.14*** | -0.22*** | -8.99 | 59.13** | -68.12*** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.021) | (0.021) | (0.021) | (34.649) | (26.066) | (24.382) |
| More than high school | 0.48*** | 0.46*** | 0.31*** | 988.20*** | 435.29*** | 552.91*** |
| | (0.028) | (0.026) | (0.028) | (71.674) | (36.266) | (53.221) |
| More than high school * recession | 0.03 | 0.00 | -0.00 | -241.37*** | -114.59*** | -126.78*** |
| | (0.030) | (0.028) | (0.028) | (62.349) | (41.494) | (45.750) |

*Standard errors in parentheses and are clustered at individual level; other controls includes employment,, income, wealth, religious preference, health status and state effects. Data from 2001-2015 PPS. All dollar amounts are adjusted to 2016 U.S. dollars. * p < 0.10, ** p < 0.05, *** p < 0.01*

**Table A1.6: Regression based predicted values of Informal Giving/Private Transfers**

| | | Incidence | Average Amounts |
|---|---|---|---|
| **All Americans** | Before recession | 0.144 | 866.940 |
| | | (0.003) | (37.317) |
| | After recession | 0.127 | 709.110 |
| | | (0.003) | (34.267) |
| **Americans aged 35 or less** | Before recession | 0.118 | 464.349 |
| | | (0.005) | (37.398) |
| | After recession | 0.102 | 379.201 |
| | | (0.004) | (38.749) |
| **American more than 35 years old** | Before recession | 0.153 | 993.126 |
| | | (0.004) | (47.576) |
| | After recession | 0.136 | 828.217 |
| | | (0.004) | (46.881) |

| | | | |
|---|---|---|---|
| **Single Men** | Before recession | 0.227 | 1648.363 |
| | | (0.011) | (153.994) |
| | After recession | 0.201 | 1532.768 |
| | | (0.011) | (162.025) |
| **Single Women** | Before recession | 0.103 | 581.328 |
| | | (0.006) | (46.142) |
| | After recession | 0.102 | 571.378 |
| | | (0.006) | (54.076) |
| **Married couples** | Before recession | 0.133 | 710.415 |
| | | (0.004) | (43.531) |
| | After recession | 0.111 | 463.023 |
| | | (0.003) | (33.518) |
| **Non-white** | Before recession | 0.192 | 947.755 |
| | | (0.007) | (64.906) |
| | After recession | 0.154 | 772.103 |
| | | (0.007) | (56.792) |
| **White** | Before recession | 0.129 | 837.665 |
| | | (0.003) | (44.257) |
| | After recession | 0.119 | 690.569 |
| | | (0.003) | (40.536) |
| **High School or less** | Before recession | 0.137 | 710.764 |
| | | (0.005) | (46.461) |

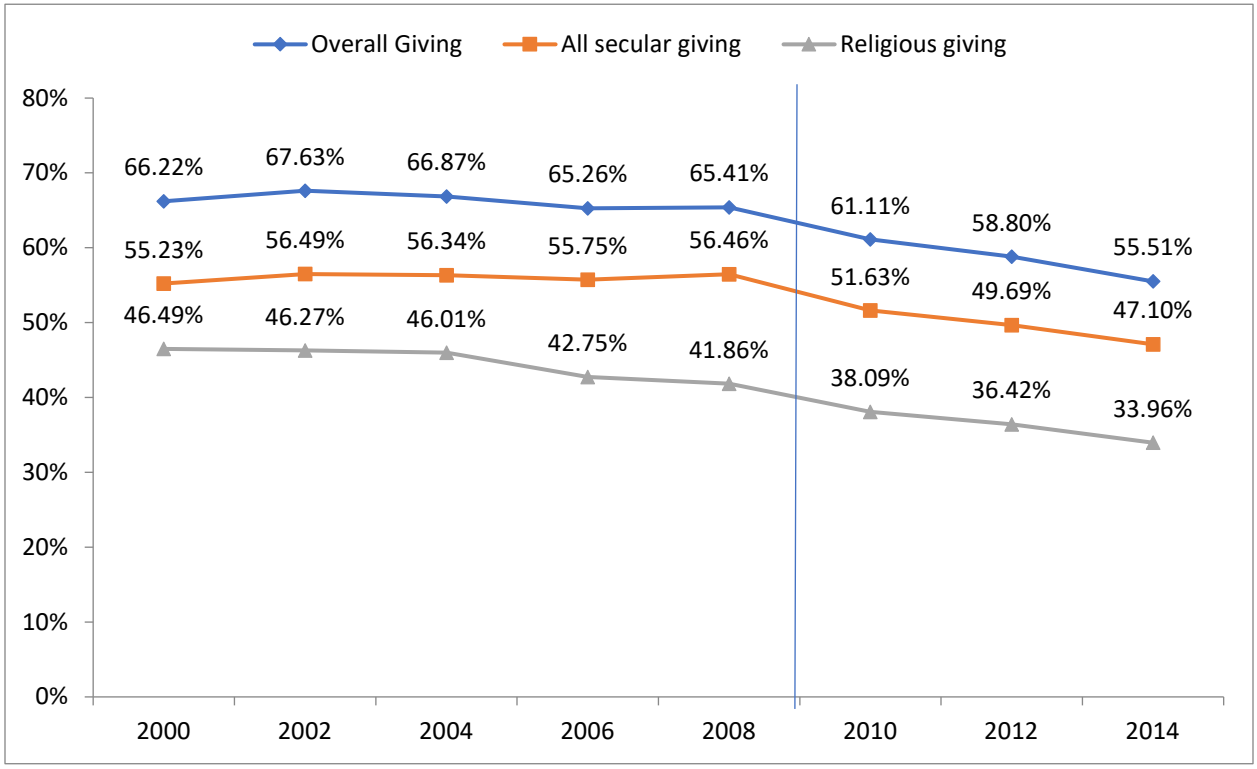
| | | | |
|---|---|---|---|
| | After recession | 0.125 | 609.105 |
| | | (0.008) | (47.693) |
| **More than high school** | Before recession | 0.142 | 1109.136 |
| | | (0.008) | (132.619) |
| | After recession | 0.116 | 853.719 |
| | | (0.006) | (95.840) |

**Table A1.7: Volunteering Rates from Current Population Survey (CPS) data**

| **Year** | **Volunteering rates** | **Standard deviations** |
|---|---|---|
| 2002 | 29.43% | 0.456 |
| 2003 | 30.50% | 0.460 |
| 2004 | 30.76% | 0.461 |
| 2005 | 30.78% | 0.462 |
| 2006 | 28.73% | 0.453 |
| 2007 | 28.32% | 0.451 |
| 2008 | 28.40% | 0.451 |
| 2009 | 28.75% | 0.453 |
| 2010 | 27.96% | 0.449 |
| 2011 | 28.41% | 0.451 |
| 2012 | 28.13% | 0.450 |
| 2013 | 27.03% | 0.444 |
| 2014 | 26.78% | 0.443 |
| 2015 | 26.04% | 0.439 |
| **Total** | **28.61%** | **0.452** |

## Appendix 2: Supplemental Figures

### Figure A2.1: U.S. Household Giving Rates 2000-2014




### Figure A2.2: U.S. Donor Household Average Giving Amounts 2000-2004

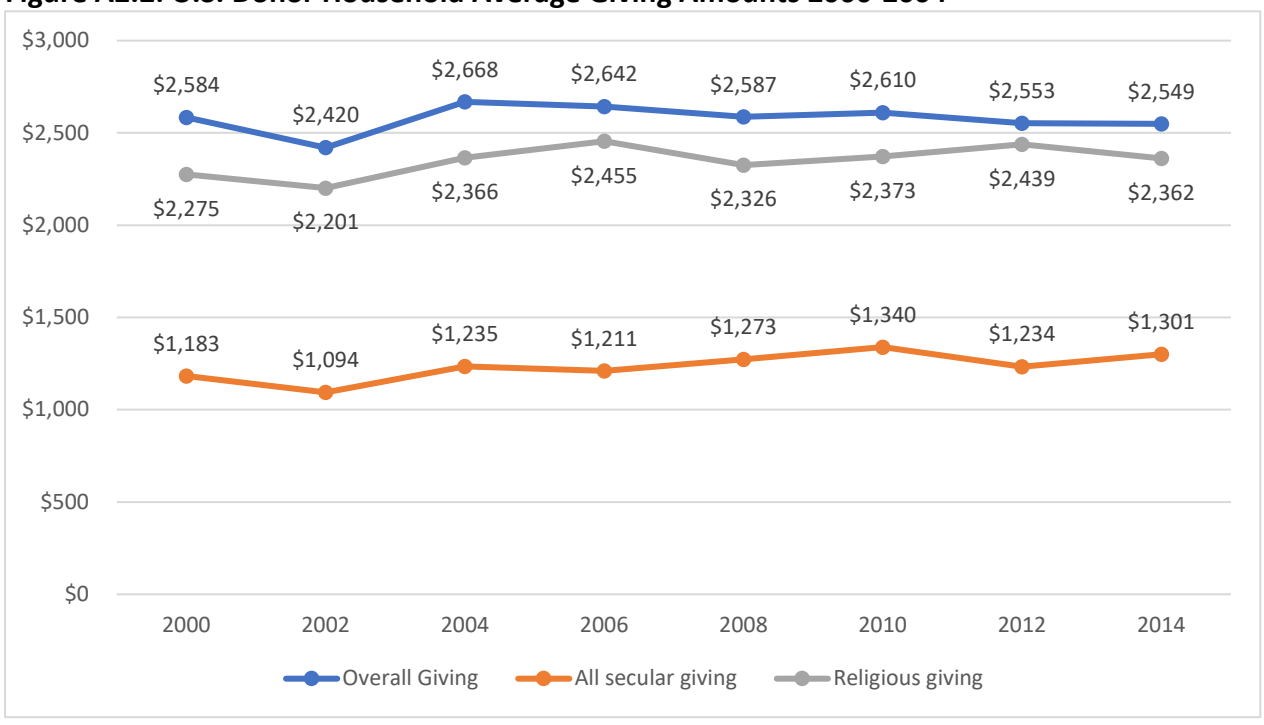


**Figure A2.3: Predicted Giving Rates by Generation**

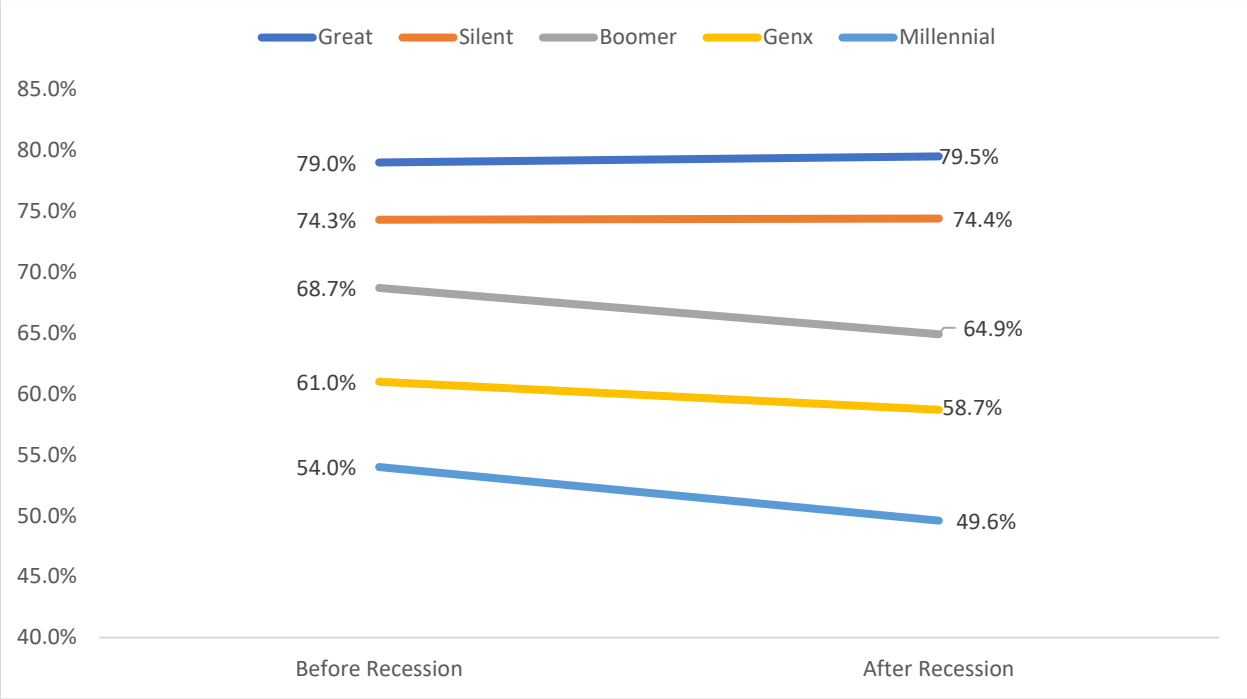
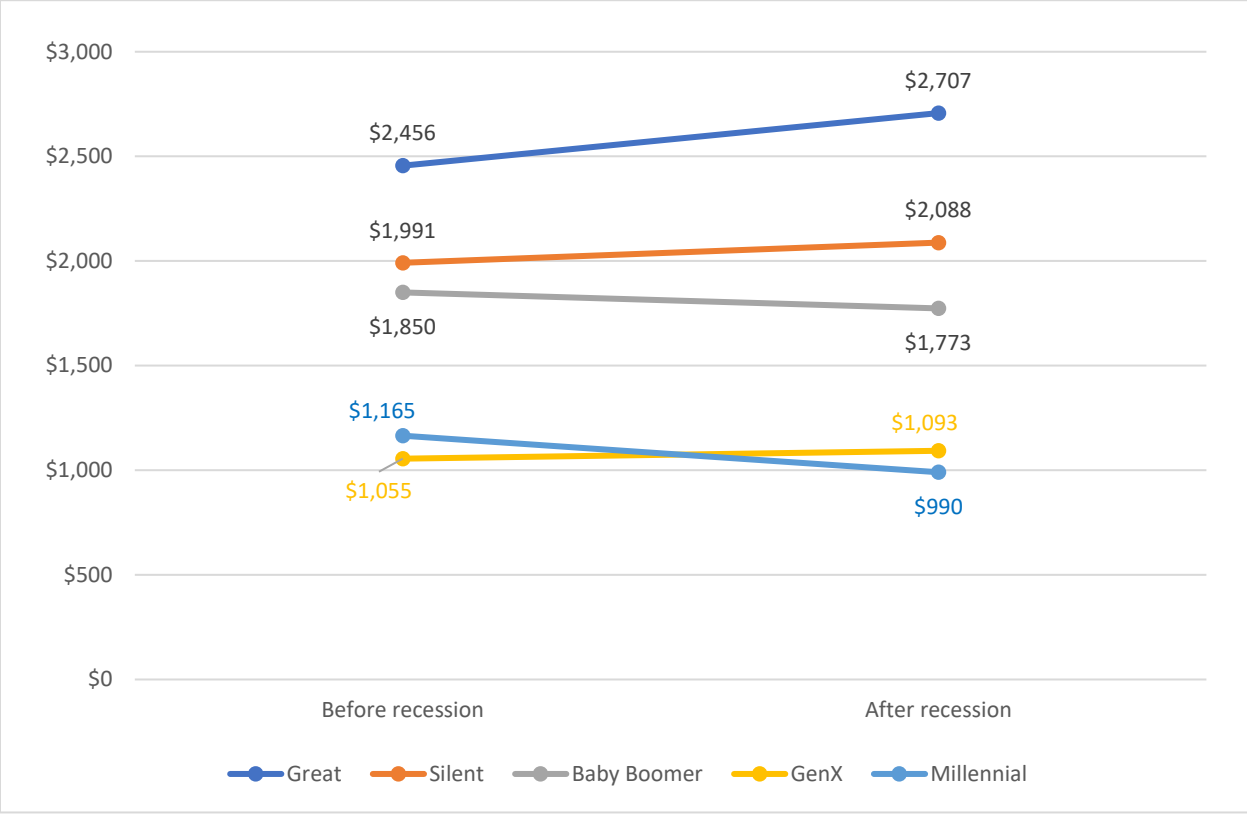



**Figure A2.4: Predicted Giving Amounts by Generation**



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